



**Department of Environment and Conservation**

**Annual Report**

**2012-13**

  
Newfoundland  
Labrador

**2013**

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Front Cover: Grab sampling for water quality monitoring on the Terra Nova River, Water Resources Management Division  
Page ii: Nature shot, unknown  
Page 1: Caribou, Eugene Ball  
Page 2: Spillers, Kimberly Bittermann  
Page 3: Gannet, Kimberly Bittermann  
Page 4: Brimstone Head, unknown; Outer Cove Brook, Water Resources Management Division  
Page 5: Jordanian Delegation, Water Resources Management Division  
Page 8: Community mapping session, Logy Bay/Middle Cove/Outer Cove, Kimberly Bittermann; the Arches, Parks and Natural Areas Division  
Page 10: Salmon Angling, Wildlife Division  
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Page 21: Pine martin, Salmonier Nature Park  
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## Message from the Minister



I am pleased to submit the 2012-13 Annual Report for the Department of Environment and Conservation in accordance with its requirements as a category one government entity under the *Transparency and Accountability Act*.

It has been a productive year for the department and I would like to take this opportunity to highlight some of our accomplishments.

In 2012-13, the Minister of Natural Resources and I announced the province's Energy Efficiency Action Plan and the Climate Change Action Plan. Both of these plans demonstrate government's commitment to the environment, and the importance of environmentally and economically sustainable resource development in Newfoundland and Labrador's energy sector. To help meet our Energy Efficiency Action Plan and Climate Change Action Plan commitments, government is working towards retiring the Holyrood thermal generating plant and supports the construction of Muskrat Falls hydroelectric development.

The work of the department has local, regional, national and international reach as seen in collaboration with Jordan, where the department is working on establishing an advanced water monitoring and reporting network. This partnership with the Kingdom of Jordan represents a valuable opportunity to share best practices in the field of water resources management.

Work continues on climate change adaptation in Newfoundland and Labrador to enhance the resiliency of communities in the province. The department continues to work with Municipalities Newfoundland and Labrador, the Professional Municipal Administrators, Memorial University and communities to develop a locally relevant climate change vulnerability assessment tool. This tool will enable communities to assess where they are vulnerable to climate change and provide assistance in developing strategies to protect infrastructure and people from the impacts of climate change.

This report covers the period from April 1, 2012 to March 31, 2013. The major themes addressed in this report are environmental protection, enhanced management of caribou and moose populations, and climate change adaptation. The reported outcomes affirm the department's commitment to fulfilling government's strategic directions.

My signature is indicative of my accountability for the preparation of this report and I am accountable for the results it contains.

A handwritten signature in dark ink, reading "Tom Hedderson".

THE HONOURABLE TOM HEDDERSON  
Minister

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# Departmental Overview



The Department of Environment and Conservation is a category one government entity under the *Transparency and Accountability Act* and is responsible for the protection and enhancement of the environment, management of the province's wildlife, inland fish, water, parks, and Crown land resources. The department is also the lead on government sustainable development initiatives and is responsible for implementing programs with respect to government's response to climate change. The department has three branches:

## **Environment Branch:**

This branch is responsible for the divisions of Environmental Assessment, Pollution Prevention, and Water Resources Management.

## **Lands Branch:**

This branch is responsible for the divisions of Crown Lands Administration, Land Management, and Surveys and Mapping.

## **Natural Heritage Branch:**

This branch is responsible for the divisions of Parks and Natural Areas, and Wildlife.

In addition to the above branches, the department has a Policy and Planning Division, a Communications Unit and a Sustainable Development and Strategic Science Division.

## **Vision**

The vision of the Department of Environment and Conservation is a clean, sustainable environment and healthy, resilient ecosystems in perpetuity for the social, physical, cultural, biological and economic well-being of the province.

## **Mission**

By March 31, 2017, the Department of Environment and Conservation will have reduced the adverse impacts of human activities on the environment and improved the health of our ecosystems.

## **Mandate**

The mandate of the Department of Environment and Conservation is derived from the *Department of Environment and Conservation Notice, 2008* under the *Executive Council Act* on matters related to:

- The protection, enhancement and conservation of the quality of the natural environment including water, air and soil quality; and the conservation, development, control, improvement and proper utilization of the water resource of the province;
- Crown lands;
- The management, preservation, control, protection and development of provincial parks as defined in the *Parks Act*; provincial interests in all national parks established in the province by the Government of Canada; and wilderness and ecological reserves as defined in the *Wilderness and Ecological Reserves Act*;

- Matters related to the management, preservation, protection and development of wildlife and inland fisheries;
- The *Wildlife Act* on matters related to wildlife reserves and Salmonier Nature Park; and,
- The *Pippy Park Act* on matters related to Pippy Park.

### **Lines of Business**

The Department of Environment and Conservation is engaged in the following lines of business:

- Crown land resources, and production of geomatics services;
- Provincial parks, ecological and wilderness reserves, natural areas, and Canadian Heritage Rivers;
- Coordination of environmental assessments;
- Management and protection of wildlife and inland fish populations;
- Protection of air, soil and water quality;
- Management of water resources, water quality, and availability;
- Climate change; and,
- Sustainable development and supporting strategic environmental science.

Please refer to Appendix B for the department's Lines of Business in full detail.

### **Legislation**

The department's work is informed by the following Acts and their corresponding regulations:

*Environmental Protection Act*

*Water Resources Act*

*Wild Life Act*

*Provincial Parks Act*

*Wilderness and Ecological Reserves Act*

*Endangered Species Act*

*Lands Act*

*Land Surveyors Act*

*Geographical Names Board Act*

*National Parks Lands Act*

*Pippy Park Commission Act*

Service NL administers certain aspects of enforcement under the *Environmental Protection Act* and the *Water Resources Act*. The Department of Justice also administers select enforcement activities under the *Wild Life Act*, the *Wilderness and Ecological Reserves Act*, and the *Endangered Species Act*.



### Location of Offices

The department's main offices are in Corner Brook, Deer Lake, and the Howley Building and Confederation Building in St. John's. The department has other offices located in Clarenville, Gander, Grand Falls-Windsor, Happy Valley-Goose Bay, and St. John's. The department is also responsible for Salmonier Nature Park and several other provincial parks and reserves located throughout the province. The Institute of Biodiversity, Ecosystem Science and Sustainability (IBES), located in Corner Brook, is an integral component of the Sustainable Development and Strategic Science Division.

The Department of Environment and Conservation website is [www.env.gov.nl.ca/env/](http://www.env.gov.nl.ca/env/)

### Staffing

On March 31, 2013, the department's staff complement consisted of 375 employees, which includes permanent (229), temporary (38), seasonal (106) and contractual (2) employees. 65% percent (244) of employees are male and 35% percent (131) are female. Staff by region is indicated as follows:

| Region                        | Staff      |
|-------------------------------|------------|
| Avalon Peninsula              | 189        |
| Central West                  | 26         |
| Central East                  | 21         |
| Labrador                      | 15         |
| West Coast/Northern Peninsula | 124        |
| <b>Total Employees</b>        | <b>375</b> |

### Budget

The department's gross expenditure budget for 2012-13 was \$46,865,026 with planned related revenue of approximately \$13,066,499 for a net expenditure of \$33,798,527.



## Highlights and Accomplishments



### Newfoundland and Labrador Water Resources Management Division Share Expertise with Jordan

The Newfoundland and Labrador (NL) Water Resources Management Division has engaged in capacity building and transfer of knowledge through international projects in the past. Following the successful completion of a project in 2009 with the North Atlantic Treaty Organization (NATO) on the Nile River in Egypt, the Division was approached once again by NATO to work with Jordan.

The project entitled *Transboundary Water Governance and Climate Change in the Hashemite Kingdom of Jordan* is funded by NATO's Science for Peace and Security Program. The goal of this program is to help link science to society through projects that best applies technical expertise to problem solving by focusing on security, environmental sustainability, and other defined priorities of NATO member nations. Collaboration, networking, and capacity building are the means used to accomplish this end goal. The project commenced in April 2012 and will continue for a three-year period.

Jordan is one of the most water stressed countries in the world, sharing significant transboundary water resources with neighboring countries. These limited, and in some cases non-renewable, water resources support a multitude of strategically important purposes such as drinking water, irrigation, industry, tourism, and aquatic life. The availability of adequate water quantity and quality in Jordan is deteriorating over time due to a number of factors such as rapid population growth, urbanization, and unsustainable water use. Additionally, climate change and associated impacts such as changes in precipitation patterns, increased frequency of droughts and floods and high evaporation are affecting the availability of water resources.



The NL Water Resources Management Division, in collaboration with Jordan, is working on establishing an advanced water monitoring and reporting network which includes real-time water and weather data collection stations. The data from this monitoring network will be available for use by various agencies to monitor water and climate changes on a real-time basis throughout the Dead Sea watershed. Additionally, the data obtained will lead to the development tools such as intensity-duration-frequency (IDF) curves, flood forecasting, and policies related to salt water intrusion, water contamination, and supply-demand assessment. These tools and policies will help to address challenges and make informed decisions in the areas of transboundary water governance and climate change adaptation.



Throughout 2012 and into 2013, significant project milestones were achieved. The first Jordanian delegation visited St. John's in June 2012 for a period of ten days. During their stay, delegates received training from the Newfoundland and Labrador Water Resources Management staff in several critical areas, including: instrumentation, site selection, and station set-up. Delegates also received training in data collection, analysis, and water resources management. In January 2013, a team of experts from the NL Water Resources Management Division travelled to the Kingdom of Jordan to provide additional training and to deploy a series of initial monitoring stations. Specifically, these stations included a weather station in Karak at Mu'tah University, a water level monitoring station on the southern Dead Sea, and a water quality and quantity station on the Jordan River, near the presumed location of John the Baptist's ministry.

Work under this innovative project will continue until 2015 with extensive knowledge and expertise of water resources management being shared between the department's officials in the Water Resources Management Division and in Jordan.



Jordanian delegation meets with the Honourable Terry French, former Minister of Environment and Conservation in June 2012.

## Climate Change Adaptation

In 2012-13 the Policy and Planning Division, which is responsible for the implementation of programs related to climate change, including climate change adaptation, continued their work with the Atlantic Climate Adaptation Solutions Association (ACASA), a partnership between the four Atlantic Provinces and the Federal Government. The division continued its work with municipalities, assisting them in dealing with the impacts of climate change through the development and launch of a community vulnerability assessment tool: *7 Steps to Assess Climate Change Vulnerability in Your Community*. As part of this tool kit, a series of case studies on local climate change adaptation were developed. The department also hosted a conference in St. John's in November to highlight the adaptation work undertaken through the Newfoundland and Labrador ACASA / Natural Resources Canada partnership.

The division supported Municipalities Newfoundland and Labrador (MNL) and the Professional Municipal Administrators (PMA) in the development of an infrastructure training workbook, *"Managing Municipal Infrastructure in a Changing Climate"*. The department also provided funding to support training workshops across the province and a staff member presented at each workshop. These were led by MNL and PMA and were designed to train municipal staff on managing municipal infrastructure and to introduce them to the assessment tool *"7 Steps to Assess Climate Change Vulnerability in Your Community"*.

Other highlights from the adaptation work include:

- Flood risk mapping for Stephenville Crossing/Black Duck Siding and Shearstown/Bay Roberts that incorporated climate change projections;
- A flood events inventory for NL dating back to 1950;
- Climate forecasting to 2100 for the Island of Newfoundland;
- A coastal erosion assessment for the Island of Newfoundland;
- An aerial imagery comparison study;
- Climate change vulnerability assessments in Labrador;
- A saltwater intrusion assessment; and,
- An Atlantic-wide website to house the results of the ACASA projects.

The division is involved in the following ongoing and new shared commitments:

- Continue working with the other Atlantic Provinces through ACASA on adaptation in Atlantic Canada;
- Continue to work with the municipal associations to reach out to communities and help them become more resilient to climate change; and
- Continue to work with the Office of Climate Change, Energy Efficiency and Emissions Trading to implement actions put forward in the 2011 Climate Change Action Plan.

Due to their efforts in helping communities assess their vulnerability to climate change and adapt to the impacts, staff members involved in the Regional Adaptation Collaborative with Natural Resources Canada and the four Atlantic Provinces, were awarded with the 2012 Public Service Award of Excellence. The team was composed of Kimberly Bittermann, John Drover, Tammy Keats, and Nicole Rowsell.

### **Other notables**

Also of note are Dr. Abdel-Zaher Kamal Abdel-Razek and David Green of Environment and Conservation who received individual Public Service Awards of Excellence in 2012 for their respective public service contributions in the areas of agricultural water management and leadership at Salmonier Nature Park.

### **Air Quality Management System**

Federal, provincial and territorial Environment Ministers met throughout the 2000s, in an effort to develop a new collaborative approach to air quality management in Canada. The Canadian Council of Ministers of the Environment (CCME) in subsequent years built on existing provincial air quality measures to protect human health and the environment which led to the creation of the Air Quality Management System (AQMS).

The AQMS is comprehensive: it looks at all major sources of air pollution that contribute to air quality problems and supports actions that will address these sources. The System is collaborative; it provides a framework for provincial, territorial and federal governments to work together to find the best way to improve air quality. The System is inclusive: stakeholders and communities have an important role in finding the best ways to improve air quality. The System is proactive: it focuses on effective actions that will reduce pollution levels overall and on keeping clean areas clean. The System is flexible: it recognizes the important differences among Canadian jurisdictions and allows for tailored responses to air quality problems. The System is accountable: it provides Canadians with information about the state of the air that they are breathing and about the actions underway to protect and improve outdoor air quality. The System helps us internationally: it allows Canada to continue to demonstrate active management of air quality, strengthening the Canadian negotiating position with the US to expand the Canada/US Air Quality Agreement.

Standards for air quality are measurements of the concentrations of pollutants in outdoor air. The System's initial air quality standards are for two pollutants of concern to human health: fine particulate and ozone. Smog is largely comprised of these two substances. The System will develop standards for other pollutants over time. The new standards are more stringent than the Canada-wide standards. The new standards set the bar for action on air quality. Jurisdictions will monitor the concentrations of fine particulate and decide what actions need to be taken to either improve poor air quality or maintain good air quality. They will be incorporated as objectives under sections 54 and 55 of the *Canadian Environmental Protection Act*. Provinces may also incorporate them into their regulatory regimes if they choose, which Newfoundland and Labrador will do under the *Air Quality Regulations*.

## Shared Commitments



### **Department of Environment and Conservation (ENVC) and the Multi-Materials Stewardship Board (MMSB)**

The Multi-Materials Stewardship Board (MMSB) is a Crown agency of the Government of Newfoundland and Labrador, reporting to the Minister of Environment and Conservation. It was established in 1996 to develop, implement and manage waste diversion and recycling programs on a province-wide basis for specific waste streams designated by the government.

MMSB's mandate has expanded over time to include supporting the implementation of the provincial Waste Management Strategy through the administration of the Newfoundland and Labrador Waste Management Trust Fund. In addition, MMSB is also responsible for the development and implementation of province-wide public education initiatives to promote more progressive waste management practices in Newfoundland and Labrador, with a particular focus on waste reduction and recycling.

While MMSB has these noted responsibilities, the Department of Environment and Conservation is responsible for policy and planning with respect to solid waste management. Other partners include the Department of Municipal Affairs, which implements policies and plans through capital funding, and Service NL, which carries out the enforcement aspect of solid waste management in the province. These shared commitments are essential to the work of the department and facilitate our collective efforts to respond to the Provincial Solid Waste Management Strategy Strategic Direction.

### **Department of Environment and Conservation and Department of Fisheries and Aquaculture**

There is an ongoing partnership with the Department of Fisheries and Aquaculture for the Coastal and Ocean Management Policy framework. The management and administration of provincial Crown land on the coast falls under the provisions of the *Lands Act*. Cooperation between provincial departments is essential to the establishment of priorities and initiatives involved in coastal management.



The department works with Fisheries and Aquaculture to inform on best environmental practices including initiatives on Education and Awareness; Healthy Marine Environments; Social, Cultural and Economic Sustainability; and coastal Crown land use.



## **Caribou Resource Committee (CRC)**

The Caribou Resource Committee functions as a mechanism for stakeholder input on the social, economic, and ecological aspects of the Caribou Strategy. The Caribou Strategy is a five-year (2008-2013) initiative to address the decline in the island woodland caribou population through research and adaptive management. Members of the Committee assist and support the Senior Project Team by providing comment on biological, social, economic and operational considerations, and through forwarding inquiries, views and concerns from stakeholder groups through their Committee representative. This may include advice on proposed activities, and comment on the progress and success of the Strategy's ongoing efforts. The Committee also serves to assist and support in the dissemination of relevant information from the Senior Project Team to stakeholder groups. In addition to the Department of Environment and Conservation's members, the Committee also includes internal representation from the Department of Tourism, Culture and Recreation, Department of Natural Resources, and the Office of Public Engagement. External representatives are the Newfoundland and Labrador Outfitters Association, Newfoundland and Labrador Trapper's Association, Newfoundland and Labrador Wildlife Federation, general hunting public, and the academic community.

## **Climate Change Adaptation**

Climate change program implementation related to adaptation and mitigation is the responsibility of the Department of Environment and Conservation. The department has partnered with the four Atlantic Provinces, Natural Resources Canada, Memorial University, Municipalities Newfoundland and Labrador (MNL) and the Professional Municipal Administrators (PMA) to develop a suite of local, plain-language tools, reports and case studies to help local communities become more resilient to the impacts of climate change.

As a direct result of this work, there have been a number of significant outcomes for the province. The Government of Newfoundland and Labrador expanded and improved their flood risk mapping program, becoming the first in North America to incorporate climate change projections and flood inundation into flood risk mapping. The provincial flood events inventory was updated back to the 1950s and previous provincial flood risk maps were assessed for accuracy based on land cover changes and climate change projections. The Province now has a community vulnerability assessment tool, *7 Steps to Assess Climate Change Vulnerability in Your Community* that has been adapted for use in the other Atlantic provinces and has been highlighted at local, regional, and national conferences. MNL and PMA also produced a managing sustainable infrastructure training workbook for municipal staff based on the community vulnerability assessment tool and have conducted training workshops across the province.

The Office of Climate Change, Energy Efficiency and Emissions Trading (CCEEET) was created in 2009 and is responsible for strategy and policy development on climate change and energy efficiency. The department works collaboratively with CCEEET to achieve this mandate and implement action on climate change as put forward in the 2011 Climate Change Action Plan, *'Charting Our Course'*.

## **Investing in Labrador**

Investing in Labrador is one part of the ongoing strategic directions of government. Work in this area is concentrated on the improvement in the social and economic conditions of the region. Key focus areas include: Climate change adaptation. Remediation of contaminated sites; Protected areas; Environmental stewardship projects; Wildlife management; the Lower Churchill project and the provincial Solid Waste Management Strategy. Each of these components has been addressed in either the department's Strategic Plan 2011-2014, operational plans or in divisional work plans. The department shares this responsibility with the Departments of Municipal Affairs, Justice, Health and Community Services, and Service NL, as well as the Labrador Affairs Office and the Inter-governmental and Aboriginal Affairs Secretariat.

## **Environmental Protection Activities - Government Services Centre, Service NL**

The Department of Environment and Conservation and Service NL have a Memorandum of Understanding to administer environmental protection activities through Government Service Centres. This work includes inspection of waste disposal sites, petroleum storage tank systems, dry cleaners, saw mills, quarries, used tire facilities, used oil facilities, PCB storage facilities, farm waste management facilities, soil treatment facilities and illegal dumping.

In addition, the department works with Government Service Centres, the Department of Municipal Affairs, and the Multi-Materials Stewardship Board (MMSB) to administer the province's Solid Waste Management Strategy. The department works with Government Services Centre and the Agrifoods Development Branch of the Department of Natural Resources to issue approvals and enforce conditions in the approvals related to waste management issues on farms. Environmental health services are provided under an MOU with Service NL relating to agricultural operations. Environmental protection services are provided under an MOU with Service NL while the MMSB administers the province's Solid Waste Management Strategy.

### **Safe Drinking Water**

The department works closely with the Departments of Municipal Affairs, Service NL, and Health and Community Services to achieve the goals of the Multi-Barrier Strategic Action Plan (MBSAP), and to enforce regulations and guidelines for drinking water safety. Each department is responsible for one or more components of the MBSAP. Their efforts are coordinated by an interdepartmental committee of deputy ministers, which is chaired by the Deputy Minister of the Department of Environment and Conservation. The committee's work is supported by the Interdepartmental Safe Drinking Water Technical Working Group which was founded in 2000. Medical Officers of Health and representatives from the Public Health Laboratory are also members of the working group.

### **Moose Management**

Moose are important to our province, both culturally and economically. Recent concerns for moose-vehicle collisions have led to considerations for different moose management strategies. While citizens of the province are encouraged to be mindful and observant of moose when traveling on Newfoundland and Labrador's highways, the department works collaboratively with the Department of Transportation and Works and other government entities on a series of initiatives to address moose-vehicle collisions and improve the recording and storage of collision data.



## **Interdepartmental Land Use Committee (ILUC)**

The Interdepartmental Land Use Committee (ILUC) was established in 1983. ILUC's mandate is to review all proposals involving Crown or Public lands. It provides a senior level forum for interdepartmental land use information exchange, reviewing legislation and policies affecting the use of Crown land, reviewing and approving designations that impact land use in the province. Examples include:

- Municipal or regional plans;
- Community and regional watershed boundaries;
- Waste disposal sites;
- Municipal boundaries;
- Agriculture, forestry, wildlife, park, mineral aggregate, ecological and wilderness reserves;
- Major road, hydro and other service corridors;
- Legislation, regulations or guidelines affecting the use of Crown or public lands; and,
- Sales of Crown (Provincial or Federal) assets.

ILUC currently reviews 30 – 50 proposals each year and this number is increasing (52 in 2012) as the various government departments utilize the ILUC process.

## **Department of Environment and Conservation, the Department of Tourism, Culture and Recreation (TCR) and the Department of Innovation, Business and Rural Development (IBRD)**

Parks and Natural Areas Division is leading the development of a UNESCO World Heritage Site nomination dossier for Mistaken Point Ecological Reserve. The Department is working in collaboration with TCR and IBRD and local residents to progress the nomination process for this globally significant fossil site. A World Heritage Public Advisory Committee has been established that includes representatives from ENVC, TCR, IBRD and local residents. Significant progress has been made on the nomination dossier and it is expected that it will be ready for submission in 2014.



## Report on Performance



The Department of Environment and Conservation identified three strategic issues that would guide the department's work for the three-year period from April 1, 2011 to March 31, 2014. These strategic issues are: Environmental Protection, Enhanced Management of Caribou and Moose Populations, and Climate Change Adaptation.

### 1. Environmental Protection

The Department of Environment and Conservation provides environmental stewardship for the province by improving monitoring techniques and practices and the adoption of the latest scientific, evidence-based approaches to manage the environment. Another vital component is providing information to the public about the quality of the environment around them. The Air Quality Management System (AQMS) is a new comprehensive approach for improving air quality in Canada and is the product of unprecedented collaboration by the federal, provincial and territorial governments and stakeholders. AQMS is a comprehensive approach for improving air quality in Canada and October 2012, the Canadian Council of Ministers of the Environment (CCME) agreed to begin implementing a system for Canada in this area starting in 2013. The AQMS process will result in improved air quality in Newfoundland and Labrador with associated health benefits. This is in line with government's strategic direction of electronic service delivery in the focus area of air quality monitoring.

#### Goal

By March 31, 2014, the Department of Environment and Conservation will have implemented measures to improve the protection of land, air and water in Newfoundland and Labrador.

#### Objective for 2012-13:

By March 31, 2013, the Department of Environment and Conservation, building on existing requirements, will have developed comprehensive strategies for monitoring and reporting on air quality in the province and increased public access to air quality information.

#### Measures

Comprehensive air quality strategies developed and public access to information increased.

#### Indicators

| Indicator                                      | Accomplishments 2012-13  |
|--|--|
| Improved monitoring techniques for air quality | <p>Improved monitoring techniques for air quality implemented during the 2012-13 fiscal year include:</p> <ul style="list-style-type: none"><li>New <u>Ambient Air Monitoring Guidelines</u> (<a href="http://www.env.gov.nl.ca/env/env_protection/science/aqhi.html#guidance">http://www.env.gov.nl.ca/env/env_protection/science/aqhi.html#guidance</a>) to provide a standardized method to report on air quality. Techniques include: calibration frequencies, operations and applications and modeling. These guidelines help to ensure that sites operated by industries under Certificate of Approval, meet national air monitoring</li></ul> |



| Indicator   | Accomplishments 2012-13   |
|---|---|
| Improved monitoring techniques for air quality (cont'd) | <p>standards as set out in the NAPS (National Air Pollution Surveillance) program.</p> <ul style="list-style-type: none"> <li>• A new air quality monitoring station was added in Burin in 2013. Other sites in the province include, St. John's, Mount Pearl, Grand Falls-Windsor, Corner Brook. Air zones have been established throughout the province providing the department data on the air quality health index of communities.</li> </ul>  |
| Increased public access to air quality information      | <ul style="list-style-type: none"> <li>• The NAPS monitoring data is available on the department website in near real time (<a href="http://www.env.gov.nl.ca/env/env_protection/science/airmon/index.html">http://www.env.gov.nl.ca/env/env_protection/science/airmon/index.html</a>)</li> <li>• The adoption of AQMS has further improved public access to up to date air quality information across Canada. This approach has bolstered the already substantial air quality reporting undertaken by the department.</li> </ul> |

## Environmental Protection

### 2013-2014 Objective:

By March 31, 2014, the Department of Environment and Conservation will have developed comprehensive strategies to improve upon water quality issues.

### Measure

Strategies developed to improve water quality.

### Indicators

- Work with stakeholders to address improved access to safe drinking water for communities.
- New training supports developed to assist in certification of water quality operators.
- Enhanced efforts to support the removal of select number of long term boil water advisories.
- Support intergovernmental approaches to address water quality and management.

## 2. Enhanced Management of Caribou and Moose Populations

The monitoring, research, and management of the province's caribou and moose populations continued in 2012-13. The ongoing work of the department on these strategic issues improves our understanding of population dynamics for moose and caribou in the province. The department's wildlife research and monitoring programs are the foundation for sound management decisions and help to ensure the sustainability of wildlife populations. Three primary initiatives led by departmental staff include the Caribou Strategy for the Island's caribou populations, the Labrador Caribou Initiative for the George River Caribou Herd, and the 5-year Moose Management Plan for Island moose populations. These programs combine data from field surveys and research to inform management decisions and to ensure sustainable populations for the benefit of Newfoundlanders and Labradorians.

Through management of hunting, wildlife habitats, environmental assessment and review of other land use activities, the Province works with the public and development proponents to minimize the impact of human activities on wildlife and wildlife habitat. Research and monitoring activities provide the baseline information to assess the potential impacts of activities and to determine the most effective mitigation measures to conserve wildlife species and habitats. Survival of adult caribou and moose is generally high and changes little from year to year. However, calf survival (recruitment) can vary substantially year to year and has played an important role in the population decline of caribou. Information collected through monitoring and research programs is essential to detect changes in recruitment and survival and provides for informed wildlife management. Key tools for understanding wildlife populations include mark-resight surveys, classifications, and telemetry. Some examples of how and why these are helpful include:

- Mark-resight surveys are used to estimate caribou populations on the Island. A caribou management unit is flown using standard, scientifically valid survey methods. During a one-week period, a specific number of individuals in the population are marked with paint. The marked individuals are allowed a brief period of time to disperse among the population (e.g., one week), and then the population is surveyed. The proportion of known marked animals, along with the number of marked and unmarked individuals observed on the survey allows researchers to account for the number of individuals that were not seen, and thus estimate the total population size.
- Classification surveys are conducted on each major herd three times annually (fall, winter, spring). The sex and age of all animals seen during the classification flights (1-2 days per herd) are recorded and the summary statistics provide estimates of sex ratio (males:females), recruitment (#calves/#of adults proportion of juveniles in population), and productivity (birth-rate). This information is crucial to setting sustainable hunting quotas and for predicting future population trends.
- Telemetry collars allow biologists to follow individual animals through time, tracking their movements and survival. Information gained through this work also provides an understanding of timing of migration, migration pathways, and allows for the delineation of calving and wintering areas. Using telemetry, biologists can also investigate the timing and cause of death for juvenile and adult animals and monitor long term trends in survival rates. Telemetry information is also vital to understanding wildlife-habitat relationships, and mapping and identifying important components of wildlife habitat.

While research and monitoring is essential to the Province's wildlife management programs, the Department also strives to integrate stakeholder input into the management process in order to incorporate social considerations. For example, for moose, a key component of the 5-year Moose Management Plan was the public engagement conducted in Fall 2012. These efforts were designed to garner constructive feedback on current moose management, provide direction on future moose management, and to understand public attitudes towards the moose resource.

**Goal:**

By March 31, 2014, the Department of Environment and Conservation will have implemented measures to enhance the management of caribou and moose populations in Newfoundland and Labrador.

**Objective for 2012-13:**

By March 31, 2013, the Department of Environment and Conservation will have implemented a caribou strategy monitoring program; continued to improve the understanding of the George River herd; and produced a draft five-year moose management plan.

**Measure**

Caribou monitoring program strategy implemented; understanding of the George River caribou herd improved; and, a 5-year moose management plan drafted.

**Indicators**

| Indicator   | Accomplishments 2012-13   |
|---|---|
| Continued select activities towards an improved understanding of island caribou ecology | <p>Specific Island caribou actions implemented by the department directly contribute towards an improved understanding of island caribou ecology and contributes to a caribou strategy monitoring program. Select activities include:</p> <ul style="list-style-type: none"><li>• mark-resight census surveys conducted;</li><li>• herd composition/classification surveys conducted in spring, fall and winter for major herds;</li><li>• radio-collaring and monitoring of adult female caribou;</li><li>• radio-collaring and monitoring of caribou calves in three regions (Middle Ridge, La Poile, Northern Peninsula/St. Anthony); continued monitoring of calves collared in previous years surviving to 2012-2013;</li><li>• analysis of caribou pellet samples for diet content, description of current caribou diet;</li><li>• non-invasive collection of predator hair and scat for DNA analysis to support predator density estimates;</li><li>• radio-collaring and monitoring of black bear, coyote and lynx;</li><li>• determination of cause-of-death for radio-collared caribou calves through mortality site investigation and DNA analysis where applicable;</li><li>• experimental removal of coyote from treatment area (southern portion of Middle Ridge caribou herd range);</li><li>• Analysis of trends in caribou body size;</li><li>• analysis of remote sensing products and ground-sampling to create draft habitat map for caribou; and,</li><li>• collaborative research with North American universities through graduate student projects.</li></ul> |

| Indicator  | Accomplishments 2012-13   |
|--|---|
| Continued support for research initiatives to improve the understanding of the George River caribou herd | <p>Specific actions undertaken by the department to support research initiatives to improve the understanding of the George River caribou herd include:</p> <ul style="list-style-type: none"> <li>• fall classification surveys;</li> <li>• presentations to Aboriginal and non-Aboriginal stakeholders;</li> <li>• aboriginal consultations;</li> <li>• post-calving photo census; and,</li> <li>• health monitoring to include measures of body fat, disease and parasite monitoring, estimates of pregnancy rates, and analyses of age class ratios.</li> </ul>   |
| Continued select activities to improve the management plan for moose populations in the province         | <p>Specific actions undertaken by the department to directly support moose management planning in Newfoundland and Labrador and contribute to departmental efforts to produce a draft 5-year moose management plan, include the following:</p> <ul style="list-style-type: none"> <li>• census conducted in Moose Management Area to estimate population size;</li> <li>• monitored sick moose;</li> <li>• public engagement sessions conducted to obtain feedback to support and inform moose management planning;</li> <li>• studies conducted to record moose-highway interaction at various sites throughout the Island;</li> <li>• collaborative research conducted into moose habitat use in order to determine sustainable moose density across the Island's landscape; and,</li> <li>• moose jawbones collected to analyze and investigate age structure and physiological changes of moose populations on the Island.</li> </ul> |

#### **A. Island Caribou Strategy:**

The Sustainable Development and Strategic Science Division (SDSS) continued to lead the province's five-year caribou strategy, including updated estimate for survival of caribou calves, current caribou diet, information on predator specific calf mortality, as well as improved information on predator abundance and movement. Predation remains the most important source of mortality for caribou calves, but calf survival appears to be increasing which may account for the decrease in the rate of caribou population decline. Experimental reduction of coyote conducted in spring 2012 in a small, remote calving area resulted in modest improvements in calf survival and reduced mortality. Trends in caribou body size (jawbone length, antler points, calf weight) appear to be improving from the low observed near the population peak. SDSS continues to collaborate with researchers throughout North America so that the best possible science can aid in the management of Island caribou.



The Wildlife Division completed the mark-resight census surveys, and fall classifications for the island portion of the province. Calf recruitment rates remain variable among herds. The Middle Ridge Survey was completed and the final population estimate was determined to be 10,400 which is an increase from the 2010 survey of 8,800 animals. How to Hunt Coyote and How to Hunt Black Bear workshops were offered across the province and participation in coyote hunting continues to increase as demonstrated by the increased number of hunter/trappers submitting carcasses under the incentive program. Black bear hair snagging grids contributed information on population trends and genetic analyses provided additional information on numbers of individual bears visiting hair snag stations in three regions of the island portion of the province. Sustainable Development and Strategic Science Division continued strategic monitoring of caribou to include updated estimates for survival of calves, current caribou diet, and information on predator specific calf mortality. As such, the Island Caribou Strategy, pending analyses, has been completed. A series of reports and documenting the improved understanding of caribou ecology and a management plan based on these reports are being completed.

**B. Labrador Caribou Initiative (George River Caribou herd):**

The Labrador Caribou Initiative is proceeding as anticipated. Telemetry collars have been deployed and are being monitored by the Wildlife Division. Health monitoring efforts indicated good condition (i.e., good fat ratios), high prevalence of *Besnoitia* (parasite that can lead to reduced stamina, lesions, and sterility in severe cases), low pregnancy rates, and a population skewed toward younger individuals. Results from Fall classification surveys demonstrate exceedingly low recruitment levels. Adult mortality remains at extremely high levels likely due to a combination of factors including impacts of hunting on a small population, higher rates of predation as a result of the time lag in the predator cycle, and potentially, reduced vigor from *Besnoitia*. These efforts undertaken in 2012-13 helped to address critical research needs and support improved understanding of the George River Caribou herd.



### **C. Five-year Moose Management Plan:**

The department conducted public consultations on the future direction for moose management in eight communities across the Island during October and November of 2012. In addition, the public provided input via a web based survey and written submissions to the department. The results from the consultations were compiled and a report produced. The Wildlife Division has used the results to draft the 5-year moose management plan.

### **Enhanced Management of Caribou and Moose Populations**

#### **2013-2014 Objective:**

By March 31, 2014, the Department of Environment and Conservation will have developed a plan to enhance moose management that addresses both public concerns and improved understanding of moose ecology.

#### **Measure**

Plan to enhance moose management addressing public concerns and an improved understanding of moose ecology developed.

#### **Indicators**

- Finalization of 5-Year Moose Management Plan.
- Fall classifications on select island caribou herds.
- Population surveys on select moose management areas.
- Continuation of Year 3 of Labrador Caribou project.



### 3. Climate Change Adaptation

During the 2012-13 fiscal year, the Policy and Planning Division continued their partnership with the four Atlantic Provinces under the Atlantic Climate Adaptation Solutions Association (ACASA) and the Federal Government to enhance the resiliency of Newfoundland and Labrador communities to the impacts of climate change. The division built strong relationships with Memorial University, Municipalities Newfoundland and Labrador (MNL), the Professional Municipal Administrators (PMA), pilot communities and the Water Resources Management Division to develop locally relevant tools and resources. ACASA projects in this province included the development of a climate change vulnerability assessment tool for communities (*7 Steps to Assess Climate Change Vulnerability in Your Community*), climate projections using more localized scale measurements to the year 2100 for Newfoundland, flood risk mapping that incorporated climate change projections, a coastal erosion and petroleum spill vulnerability study, a series of case studies and an updated flood events inventory.

The Policy and Planning Division also assisted MNL and PMA in conducting a series of training workshops with municipal staff across the province on the complexities and challenges of climate change impacts and adaptation. With funding from our department, MNL and PMA developed an infrastructure training workbook '*Managing Sustainable Infrastructure in a Changing Climate*' that was based on the '*7 Steps to Assess Climate Change Vulnerability in Your Community*' tool. The department plans to continue to foster these partnerships and work to develop more locally relevant resources, with the goal of increasing the adaptive capacity of communities in Newfoundland and Labrador.

#### Objective for 2012-13:

By March 31, 2013, the Department of Environment and Conservation will have continued to engage municipalities in the development of climate change adaptation plans.

#### Measure

Municipalities engaged in the development of climate change adaptation plans and communities aided in dealing with the impacts of climate change.

#### Indicators

| Indicator   | Accomplishments 2012-13  |
|---|--|
| Municipal staff attended training sessions on the climate change vulnerability assessment tool through a sustainable infrastructure workshop. | <ul style="list-style-type: none"><li>Over 150 community and municipal representatives were trained in the use of the climate change vulnerability assessment tool, <i>7 Steps to Assess Climate Change Vulnerability in Your Community</i>.</li><li>In 2012-13, 10 regional workshops, over 150 community and municipal representatives received training on adapting to the impacts of climate change using a training tool developed in partnership with MNL and PMA, <i>Managing Sustainable Infrastructure in a Changing Climate</i>.</li></ul> |
| The community vulnerable assessment tool promoted through conferences and other networking opportunities.                                     | <ul style="list-style-type: none"><li>The community vulnerability assessment tool, <i>7 Steps to Assess Climate Change Vulnerability in Your Community</i>, was promoted through provincial and national conferences and other networking opportunities.</li></ul>   |

| Indicator  | Accomplishments 2012-13   |
|--|---|
| The community vulnerable assessment tool promoted through conferences and other networking opportunities. (cont'd) | <ul style="list-style-type: none"> <li>The vulnerability assessment tool was presented at the following conferences in 2012-13: <ul style="list-style-type: none"> <li>Atlantic Coastal Zone Information Steering Committee meeting in St. John's, May 2012;</li> <li>ACASA conference, <i>Prepare Now</i>, St. John's, NL, November 2012;</li> <li>International Council for Local Environmental Initiatives (ICLEI) Local Government for Sustainability, Livable Cities Forum, Hamilton, Ontario, November 2012.</li> </ul> </li> </ul> |
| The community vulnerability assessment tool and associated case studies made available in print and on the web.    | <ul style="list-style-type: none"> <li>All ACASA resources and tools have been posted on the Atlantic Adaptation website (<a href="http://www.atlanticadaptation.ca">www.atlanticadaptation.ca</a>).</li> <li>Print material has also been distributed to stakeholders during training sessions and other public events.</li> </ul>   |

## Climate Change Adaptation

### 2013-2014 Objective

By March 31, 2014, the Department of Environment and Conservation will have worked with MNL and PMA to develop a process for all municipalities to utilize the Community Vulnerability Assessment Tool.

### Measure

A process for all municipalities to utilize the community vulnerability assessment tool developed.

### Indicators

- Hard copies of resource material and the community vulnerability assessment tool, *'7 Steps to Assess Climate Change Vulnerability in Your Community'* will be made available to all communities in Newfoundland and Labrador.
- Further outreach activities will be pursued to support dissemination of the Community Vulnerability Assessment Tool for stakeholders.



The community vulnerability assessment tool, *7 Steps to Assess Climate Change Vulnerability in Your Community*.



## Appendix A: The Wilderness and Ecological Reserves Advisory Council



The Wilderness and Ecological Reserves Advisory Council (WERAC) has a mandate to advise Government on the establishment and termination of wilderness and ecological reserves within the province. WERAC was inactive in 2012-13. Should WERAC become an active entity it will prepare a plan in accordance with the *Transparency and Accountability Act*.

### **Mandate**

The *Wilderness and Ecological Reserves Act, 1980*, Under Section 7, provides for an Advisory Council to advise government on the establishment and termination of wilderness and ecological reserves within the province. The Council's duties include consultation proceedings with interested government departments, municipal councils, industry stakeholders, the general public, and other bodies on the establishment of a reserve, and preparation of a report to the Lieutenant-Governor in Council on the advisability of the establishment of a reserve.

## Appendix B: Lines of Business



The Department of Environment and Conservation provides the following lines of business:

### **Crown land resource:**

The Department of Environment and Conservation is responsible for the administration and management of the province's Crown land resources. In particular, the department:

- maintains a map and air photo library services;
- maintains the Provincial Crown lands Registry;
- investigates adverse land claims;
- reviews and inspects legal surveys;
- prepares legal documents of title for all dispositions of Crown land;
- produces and distributes topographic base maps for provincial departments and agencies;
- provides the geodetic reference system for legal and engineering surveys and topographic mapping;
- provides new aerial photography; a repository/archive of provincial aerial photography; and scanning/printing services;
- produces Crown title maps;
- develops land use management plans;
- maintains the Land Use Atlas;
- enforces lands legislation and addresses incidents of unauthorized occupation of Crown land;
- coordinates within government the inter-departmental review of Crown land development through the Inter-departmental Land Use Committee (ILUC);
- develops land use policy; and
- administers the leasing, sales and transfers of Crown land.

### **Geographical Names Board Act:**

- facilitates the official naming of geographical features and place names and maintains the joint federal/provincial data base.

### **Geomatics duties and functions:**

- provides the central data-store and on-line base layers for GIS applications;
- provides standards and consultation services in geomatics;
- facilitates federal/provincial collaboration in geomatics (Building the Canadian Geospatial Data Infrastructure (CGDI) under the Canadian Geomatics Accord);

## **Provincial parks, ecological and wilderness reserves, natural areas, and Canadian Heritage rivers**

The department is responsible for:

- the management and administration of provincial parks (the Newfoundland T'Railway Provincial Park is jointly managed by a special T'Railway Council) under the *Provincial Parks Act*;
- designation and management of wilderness and ecological reserves under the *Wilderness and Ecological Reserves Act*;
- development and implementation of biodiversity monitoring programs and maintenance of ecological integrity in protected areas;
- development and implementation of environmental education programs within select provincial parks and wilderness/ecological reserves;
- implementation of protection measures for Canadian Heritage Rivers in the province;
- negotiation of the land transfer to the federal government for National Parks; and,
- issuance of various permits for provincial parks, ecological and wilderness reserves.

## **Wildlife and inland fish**

The department protects, manages and conserves the province's biodiversity, wildlife resources and wildlife habitat. This includes:

- determining the status of species in the province according to the National Accord for the Conservation of Species at Risk to which the province is a signatory;
- developing and implementing stewardship agreements to support the recovery of species at risk;
- identifying, designating and developing recovery strategies for species at risk according to the *Endangered Species Act*;
- developing and implementing strategies for the conservation of biodiversity;
- designating and managing wildlife areas;
- administering the Salmonier Nature Park - a wildlife rehabilitation, interpretation and research facility;
- developing management plans for consumptive species which are then published in the annual hunting and trapping guide;
- issuing hunting and trapping licenses;
- developing policies and guidelines regarding wildlife utilization;
- issuing Newfoundland and Labrador Guide licenses;
- providing education, awareness and training programs such as firearm safety, hunter and trapper education courses;
- implementing the North American Waterfowl Management Plan, including providing assistance in the development of agreements to support wetland and coastal stewardship initiatives;
- developing long term landscape level planning to minimize conflicts between wildlife and other land uses;
- permitting for the non-consumptive use, possession, importation and export of wildlife and parts thereof;
- collecting scientific information to provide input into the sustainable management of wildlife, including inland fish populations, and habitat; and,
- utilizing education, awareness and stewardship programs and initiatives to foster appropriate attitudes, respect, behavior and appreciation towards our wildlife and habitat.

## **Environmental assessments**

The department coordinates the provincial environmental assessment process for new development, which includes:

- reviewing proposed undertakings;
- gathering background information concerning the environmental impacts of the proposals;
- analyzing information according to a well-defined set of environmental assessment procedures;
- providing recommendations to the minister as to whether a project can proceed in an environmentally-acceptable manner; and,
- conducting select surveillance on projects released from the environmental assessment process.

## **Air, soil and water pollution**

The department is responsible for prevention of pollution of the province's air, water and soil ecosystems. Responsibilities include:

- preparing and issuing Certificates of Approval and licenses for:
  - industrial operations,
  - waste management systems (in collaboration with Service NL Centre),
  - waste dangerous goods transporters,
  - pesticide vendors, operators and applicators, and
  - heating oil storage tank inspectors,
- developing policies, guidelines, protocols, and regulations,
- developing training material and providing training,
- enforcing Certificates of Approval, license conditions and legislation through:
  - inspections, other than those done by Service NL Centre,
  - the development of environmental monitoring programs in collaboration with industry;
  - audits of the environmental monitoring programs,
  - audits of environmental laboratories, and,
  - the monitoring of criteria air contaminants;
- designating contaminated sites and auditing risk assessments based on environmental site assessments;
- providing technical advice and outreach;
- managing remediation of industrial and military contaminated sites that are the responsibility of government; and,
- maintaining a registry of contaminated sites.

## **Water Resources Management**

The department ensures that the province's water resources are protected, conserved and enhanced to provide the greatest possible sustainable benefits to the province. Responsibilities include:

- designation of protected water supply areas and protected wellheads;
- monitoring and analysis of chemical water quality of community water supplies;
- issuance of well driller licenses;
- inspection of water well structures in accordance with requirements of the *Well Drilling Regulations*;
- comprehensive training for municipal water operators of community water and wastewater systems;
- hydrologic modeling;



- investigation of water-related problems and complaints;
- overseeing inspections of dams;
- granting of water rights;
- maintenance of a water rights registry;
- issuance of permits for community water and sewage systems, extensions and alterations;
- monitoring and inspection of community water and wastewater systems;
- provision of technical assistance on community water and sewage, hydrology, hydraulics, and environmental design of water related structures;
- maintenance of various online water quality and quantity databases and GIS resources; and,
- conducting studies on groundwater resources, flooding, water resource impacts and water use.

### **Horizontal Initiatives**

The department leads in two key government-wide initiatives: Government's response to climate change, and sustainable development. These are evolving files and therefore the programs and services offered by this department in these areas are also evolving. The programs and services that the public can expect from the department on these two initiatives are outlined below:

#### **Climate Change**

The department is responsible for:

- implementation of some elements of the provincial Climate Change Action Plan; Atlantic Climate Adaptation Solutions (ACAS) Program;
- administration of the Newfoundland and Labrador Green Fund; and Administration of Regional Adaptation Collaboratives; and,
- creation of stakeholder awareness on greenhouse gas reduction strategies and climate change impacts and adaptation.

#### **Sustainable Development**

The department is responsible for:

- strategic research on wildlife species, notably the Caribou Strategy in support of the sustainable development initiative;
- the development of indicators and a provincial sustainability report as directed by the *Sustainable Development Act*;
- development of public education and outreach information related to sustainable development;
- development and coordination of graduate research projects through the Institute of Biodiversity, Ecosystem Science and Sustainability (IBES); and,
- general promotion of sustainable development within Government and the larger community.

## Financial Statements

Expenditure and Revenue figures included in this document are based on public information provided in the Report and the Program Expenditures and Revenues of the Consolidated Revenue Fund for Fiscal Year Ended 31 March, 2013.

|  | Estimates         |                   |                   |
|--|-------------------|-------------------|-------------------|
|  | Actual \$         | Amended \$        | Original \$       |
| <b>Executive and Support Services</b>              |                   |                   |                   |
| Minister's Office                                  | 303,648           | 314,900           | 296,700           |
| Executive Support                                  | 1,123,844         | 1,138,100         | 1,101,700         |
| Administrative Support                             | 995,744           | 1,053,700         | 1,023,400         |
| Administrative Support—Capital                     | 783,754           | 2,934,400         | 2,904,400         |
| Revenue—Provincial                                 | (20,095)          | -                 | -                 |
| Policy Development and Planning                    | 2,064,730         | 4,655,800         | 4,829,500         |
| Revenue—Federal                                    | -                 | (283,000)         | (283,000)         |
| Revenue—Provincial                                 | (383,899)         | -                 | -                 |
| Sustainable Development and Strategic Science      | 2,99,898          | 3,159,200         | 3,159,200         |
| Institute for Biodiversity and Ecosystem Science   | 575,229           | 821,000           | 821,000           |
| Administrative Support—Capital                     |                   |                   |                   |
| <b>Total: Executive and Support Services</b>       | <b>8,846,847</b>  | <b>14,077,100</b> | <b>14,135,900</b> |
| <b>Environmental Management and Control</b>        |                   |                   |                   |
| Pollution Prevention                               | 7,841,394         | 9,325,000         | 8,863,800         |
| Revenue—Federal                                    | (1,200)           | (30,000)          | (30,000)          |
| Revenue—Provincial                                 | (72,574)          | (273,500)         | (273,500)         |
| Water Resources Management                         | 3,140,453         | 3,542,500         | 3,895,500         |
| Revenue—Provincial                                 | (773,224)         | (604,800)         | (604,800)         |
| Water Quality Agreement                            | 312,855           | 346,200           | 346,200           |
| Revenue—Federal                                    | (105,000)         | (121,000)         | (121,000)         |
| Revenue—Provincial                                 | (741,367)         | (788,200)         | (788,200)         |
| Environmental Assessment                           | 737,845           | 677,400           | 662,600           |
| Revenue—Provincial                                 | (118,600)         | (220,000)         | (220,000)         |
| <b>Total: Environmental Management and Control</b> | <b>12,032,547</b> | <b>13,891,100</b> | <b>13,768,100</b> |

|  | Estimates          |                   |                   |
|--|--------------------|-------------------|-------------------|
|  | Actual \$          | Amended \$        | Original \$       |
| <b><i>Lands</i></b>                                |                    |                   |                   |
| Crown Land   | 3,935,684          | 4,093,900         | 4,837,600         |
| Revenue—Provincial                                 | (101,184)          | (150,000)         | (150,000)         |
| Land Management and Development                    | (9,132,929)        | (4,222,100)       | (4,282,500)       |
| Revenue—Provincial                                 | (10,164,557)       | (5,410,000)       | (5,410,000)       |
| Surveying and Mapping                              | 716,426            | 826,100           | 894,300           |
| Revenue—Provincial                                 | (51,441)           | (80,000)          | (80,000)          |
| Geomatics Agreement                                | 107,119            | 144,200           | 244,200           |
| Revenue—Federal                                    | -                  | (77,800)          | (77,800)          |
| Revenue—Provincial                                 | -                  | (85,000)          | (85,000)          |
| <b>Total: Lands</b>                                | <b>(4,373,700)</b> | <b>842,100</b>    | <b>1,693,600</b>  |
| <b><i>Wildlife, Parks and Natural Heritage</i></b> |                    |                   |                   |
| Parks and Natural Areas                            | 5,274,756          | 5,345,800         | 4,684,700         |
| Revenue—Federal                                    | -                  | (2,500)           | (2,500)           |
| Revenue—Provincial                                 | (7,228)            | (5,000)           | (5,000)           |
| Park Development                                   | 194,608            | 207,400           | 282,600           |
| <b>Total: Parks and Natural Areas</b>              | <b>5,469,364</b>   | <b>5,553,200</b>  | <b>4,967,300</b>  |
| <b><i>Wildlife</i></b>                             |                    |                   |                   |
| Administration, Licensing and Operations           | 1,561,916          | 1,662,000         | 1,617,500         |
| Endangered Species and Biodiversity                | 412,216            | 544,300           | 531,800           |
| Stewardship and Education                          | 1,630,650          | 1,716,600         | 1,728,100         |
| Habitat, Game and Fur Management                   | 2,321,621          | 2,530,400         | 2,534,500         |
| Research   | 2,470,756          | 2,672,700         | 2,735,000         |
| Cooperative Wildlife Projects                      | 155,728            | 274,700           | 274,700           |
| Revenue—Federal                                    | (286,293)          | (279,000)         | (279,000)         |
| Revenue—Provincial                                 | (35,000)           | -                 | -                 |
| <b>Total: Wildlife</b>                             | <b>8,552,887</b>   | <b>9,400,700</b>  | <b>9,421,600</b>  |
| <b>Total: Wildlife Parks and Natural Heritage</b>  | <b>14,022,251</b>  | <b>14,953,900</b> | <b>14,388,900</b> |

|                                       | Estimates             |                       |                       |
|---------------------------------------|-----------------------|-----------------------|-----------------------|
|                                       | Actual \$             | Amended \$            | Original \$           |
| <b><i>Labour Relations Agency</i></b> |                       |                       |                       |
| Executive Support                     | 573,751               | 600,400               | 429,100               |
| Administration and Planning           | 425,485               | 496,700               | 491,200               |
| Revenue—Provincial                    | (108,786)             | (78,000)              | (78,000)              |
| Labour Relations and Standards        | 1,330,065             | 1,366,500             | 1,360,100             |
| Revenue—Provincial                    | (96,051)              | (70,000)              | (70,000)              |
| Standing Fish Price Setting Panel     | 165,988               | 203,900               | 228,500               |
| Labour Standards Relation Board       | 775,293               | 848,300               | 784,600               |
| <b>Total: Labour Relations Agency</b> | <b>3,270,582</b>      | <b>3,515,800</b>      | <b>3,293,500</b>      |
| <br><b>Total Department:</b>          | <br><b>33,798,527</b> | <br><b>47,280,000</b> | <br><b>47,280,000</b> |





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